

EDITORIAL

Infection prevention and control in Europe – the picture in the mosaic

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Article published online: 19 June 2015

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Looking at the components and implementation of Infection Prevention and Control (IPC) measures in European hospitals, a mosaic is the first picture you could easily use to describe it. Indeed a mosaic is 'a surface decoration made by inlaying small pieces of variously coloured material to form pictures' [1]. To form such a picture the mosaic pieces need to be organized and arranged by artists following the set pattern that they have in their minds. Therefore those pieces are usually of standardized size and form, while their coatings vary greatly in colours creating an almost limitless variety of composition.

Almost 100 years after the 1918 flu pandemic killed ~4% of the world's population the world is still not very well prepared to face a similar event. Healthcare-associated infections (HAI) remain a leading cause of morbidity and mortality worldwide and increasing rates of antimicrobial resistance among common bacteria significantly add to the rate of inappropriate therapy and related mortality and long-term consequences. Multidrug-resistant organisms have been implicated in severe invasive infections and their occurrence has increased steadily. Furthermore, well-known risk factors for HAI, such as international migration, travel and country-to-country transfer of patients, lead to a permanently increasing risk of spread. Introduction and establishment of multidrug-resistant organisms in previously unaffected regions is becoming more likely every day. Successful IPC can therefore no longer be established by one entity (hospital, country or region) alone but by international cooperation and coordination.

To foster international collaboration and strengthen efforts to reduce HAI burden in Europe, many different initiatives have been running for years under the aegis of the European Centre for Diseases Prevention and Control, WHO and many national and international societies focused on infectious diseases, clinical microbiology and infection control with different degrees of success. Among them, the implementation of a European network for antimicrobial resistance and HAI surveillance

(EARSS) played a pivotal role in reducing morbidity. The European Society for Clinical Microbiology and Infectious Diseases recently launched a new Committee for IPC, the European Committee on Infection Control. This committee aims to contribute to the harmonization of IPC and the standardization of procedures in Europe, eventually creating a strong collaborating network among major European stakeholders and ICP experts that will be able to develop guidelines, educational tools and a European IPC curriculum, provide consensus programmes and help to define a homogeneous approach to current and future IPC strategies in Europe.

To achieve these goals many obstacles must be overcome. In this issue, focused on the current situation of infection control and prevention of HAIs in Europe, the authors analyse different aspects of the current heterogeneity of ICP and suggest possible solutions. Hansen *et al.* analyse hand hygiene performance in European hospitals using the alcohol-based hand rub (AHR) consumption as a surrogate marker [2]. Their data show that there is still huge variability in compliance with hand hygiene and that AHR consumption is higher in northern Europe than in eastern or southern Europe [2]. Birgand *et al.* review the obstacles of implementing IPC guidelines in Europe [3]. The authors underline that the passive presence of written guidelines alone is not sufficient for successful IPC and that, although international guidelines may facilitate instituting quality standards across countries, local determinants and cultural dimensions have a profound influence on implementation of such recommendations [3]. Therefore leadership needs to be involved in coordinated actions at international, national and facility levels using multidisciplinary approaches [3]. Another interesting aspect is shown by Otter *et al.* who analyse areas of agreement and disagreement among existing guidelines for control of multidrug-resistant gram-negative bacteria [4]. Albeit that those guidelines contain broad areas of agreement and are certainly useful, the evidence-base is extremely limited and further research is urgently required [4]. All the authors agree that the lack of adequate and standardized education in IPC in European countries plays a crucial role in the steady increase of multidrug-resistant organisms. Education for IPC professionals is not standardized and in many countries does not exist [5].

Zingg *et al.* define how a European certification of IPC training and professionals should be developed and suggest that this effort could be achieved only by close collaboration of different stakeholders in Europe such as the European Committee on Infection Control, European Centre for Diseases Prevention and Control, European Union of Medical Specialists (UEMS) and national IPC societies [5]. In this setting an agreement on the minimum requirements needed to achieve adequate results in IPC seems necessary [6]. Del Toro *et al.* review the recommendations regarding those minimum requirements and assess them with respect to accreditation, training and organizational aspects, as well as structural requirements, ward staffing and microbiological support [6].

In the European IPC mosaic, although there are many small, independent pieces, which when looked at individually represent laudable and successful efforts to improve IPC and reduce HAIs, a global action is urgently needed to foster and enlarge existing networks and create new educational tools that could substantially affect the fight against HAIs.

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